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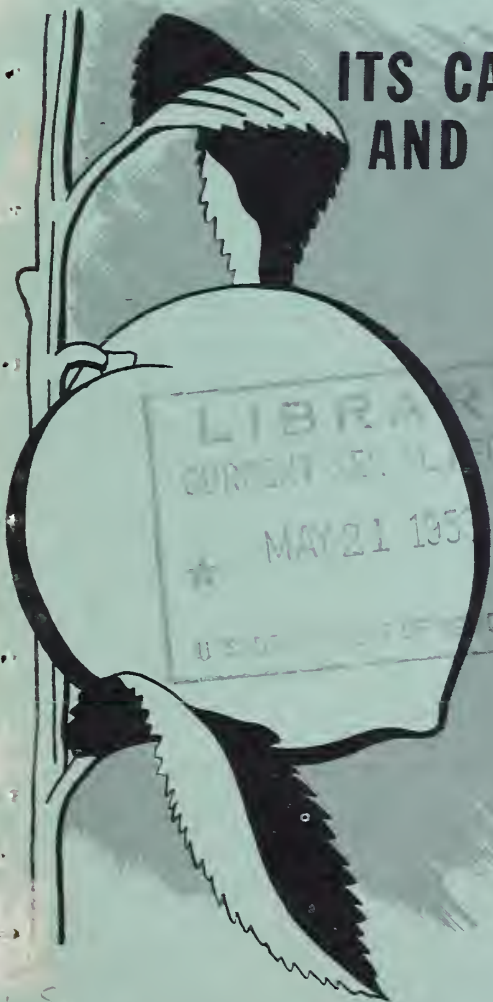
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mosaic

disease

of *Peaches.*

**ITS CAUSE
AND CONTROL**



U.S.
Bureau of Entomology and Plant Quarantine
Agricultural Research Administration
U.S. Department of Agriculture

PEACH MOSAIC is a virus disease of peach and certain other stone fruit trees which may affect their fruiting capacity and therefore their commercial usefulness. It has already ruined approximately 400,000 peach trees in this country, and caused a damage in excess of \$10 million.

This disease was first reported in the United States in 1931, in Texas and Colorado. Since then it has been found in California, Utah, Arizona, New Mexico, Oklahoma, and Arkansas. It is also known to occur in Mexico in the States of Baja California, Coahuila, and Chihuahua.

Peach mosaic spreads rapidly in an orchard. A few diseased trees were observed in orchards in Mesa County, Colo., in 1931, but nearly all the trees in these orchards were affected in 1935. The disease had also moved to the entire peach-growing area of this county. It has followed a similar pattern of spread in other States.

Symptoms

Virus diseases cause an abnormal condition in plants usually resulting in visual symptoms by which the disease may be identified. Some symptoms of peach mosaic are color-breaking in the blossom in large, pink-flowered varieties; shortened internodes; mottling crossing the veins in the leaves; delayed foliation; and in some varieties rough, bumpy fruit.

Manner of Spread

We do not yet know how peach mosaic spreads naturally, although probably some insect is the carrier. Research workers have been studying this problem for some time, for its solution will aid materially in the development of control measures. They have found that the disease is not spread by mechanical contact such as pruning. The only artificial method of spread is by budding or grafting. Soil is not infected, and replants are healthy if they have not been reinfected naturally from other trees. Irrigation water does not transmit the virus.

The disease spreads throughout the growing season but most rapidly before July.

Hosts of Peach Mosaic

Peach mosaic is found in peach, nectarine, almond, apricot, prune, and wild and cultivated plum. It causes the most severe symptoms in freestone varieties of peach. Some varieties of peach and plum can be infected without showing visible symptoms. However, when present in trees of these varieties the disease can be spread to other trees.

Nursery and Budwood Inspection

Peach mosaic can be spread by infected nursery stock and budwood. In order that only nursery stock free of

peach mosaic be offered for sale, nurseries and budwood sources in infected areas are inspected annually. Only nursery stock and budwood produced and handled in compliance with State quarantine requirements may be certified for movement. Inspection and certification are necessary to prevent the spread of peach mosaic to noninfected areas.

Control

The only known control for peach mosaic is the early destruction of infected trees. Annual inspections of orchards are made by trained and experienced inspectors. Inspections are scheduled as early in the year as leaf development permits symptoms of the disease to be recognized. Infected trees are delimbed at the time of inspection, to deny insect vectors access to this infected material.

Orchardists should remove diseased stumps as soon as possible after the trees have been delimbed, since sprouting and sucker growth will furnish a source of the virus to the insects and further spread will occur. It is as important to remove trees showing mild symptoms of the disease as it is to remove severely infected trees.

Best results are obtained in areas where inspection and tree removal are conducted on an area-wide basis and all the diseased trees found are removed promptly. There is no evidence that brush from mosaic trees will contaminate adjacent orchards. Brush

should be burned promptly to prevent infestation by shot-hole borers and to remove it from interference with orchard operations.

A peach orchard is most productive when the trees are kept in a vigorous condition. Old, weak, abandoned, and nonprofitable trees harbor pests and should be removed. Better control not only of peach mosaic but of other peach diseases will be obtained when approved sanitary orchard practices are followed.

Control of peach mosaic is a co-operative undertaking of the growers, nurserymen, counties, States, and the Federal Bureau of Entomology and Plant Quarantine. Since the control work was started in 1935, the disease apparently has been eliminated from 21 counties in California, Colorado, Texas, and Utah. Prevalence of peach mosaic has been reduced 90 percent in California, 95 percent in Colorado, 76 percent in Utah, and 72 percent in Cherokee and Smith Counties, Texas. In 1951 the disease incidence in the control districts was as follows: California, 0.52 percent, or 1 out of every 200 trees; Colorado, 0.22 percent; Utah, 0.38 percent; Cherokee and Smith Counties, Texas, 0.05 percent.

Continued protection of the peach industry through the prevention of increase and reduction in the incidence of this disease will depend upon co-operation of the growers and nurserymen each year. New findings by the research organizations may lead to more effective and economical control of the disease.

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Prepared by the Phony Peach and
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